

WHAT IS CLAIMED IS:

1. A printer which can store data received via a network in an auxiliary storage, comprising:

5 communication processing means for receiving data via the network;

image data generation means for interpreting said received data and generating image data;

printing processing means for printing based upon said generated image data; and

10 detection means for detecting a state in which said received data is processed,

wherein (i) a mode via an auxiliary storage in which said received data is input to said image data generation means via said auxiliary storage and (ii) a bypass mode in which said 15 received data is input to said image data generation means without being input to said auxiliary storage are switched based upon said detected data processing state.

20 2. A printer according to claim 1, wherein,

if data being processed is stored in said auxiliary storage, said mode via the auxiliary storage is selected; and

if no data being processed is stored in said auxiliary storage, said bypass mode is selected.

25 3. A printer according to claim 1, further

comprising:

a first buffer memory provided between said communication processing means and said auxiliary storage and provided with plural memory blocks; and

5 a second buffer memory provided between said auxiliary storage and said image data generation means and provided with plural memory blocks,

wherein said mode via the auxiliary storage and said bypass mode are switched based upon a state in which said detected 10 data is processed.

4. A printer according to claim 3, wherein a first bypass mode as said bypass mode is realized when said communication processing means stores data in the memory block of said second 15 buffer memory.

5. A printer according to claim 4, wherein said first bypass mode is switched in case (a1) no memory block storing data exists in said first buffer memory, (a2) no data being processed 20 is stored in said auxiliary storage and (a3) an empty memory block exists in said second buffer memory.

6. A printer according to claim 5, wherein said second buffer memory is set so that capacity is more than the 25 capacity of said first buffer memory.

7. A printer according to claim 3, wherein a second bypass mode as said bypass mode is realized when data stored in the memory block of said first buffer memory is sent to the memory block of said second buffer memory.

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8. A printer according to claim 3, wherein a second bypass mode as said bypass mode is realized when data stored in the memory block of said first buffer memory is extracted and is sent to an empty memory block of said second buffer memory.

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9. A printer according to claim 3, wherein a second bypass mode as said bypass mode is realized when the memory block storing data of said first buffer memory and an empty memory block of said second buffer memory are transposed.

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10. A printer according to any one of claims 7 to 9, wherein said second bypass mode is switched in case (b1) no data being processed is stored in said auxiliary storage, (b2) an empty memory block exists in said second buffer memory and (b3) a memory block storing data exists in said first buffer memory.

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25 11. A printer according to claim 3, wherein said bypass mode includes (i) a first bypass mode in which said communication processing means stores data in the memory block of said second buffer memory and (ii) a second bypass mode in which

data stored in the memory block of said first buffer memory is sent to the memory block of said second buffer memory, and said first bypass mode is switched in the following cases:

5 (a1) no memory block storing data exists in said first buffer memory;

10 (a2) no data being processed is stored in said auxiliary storage; and

15 (a3) an empty memory block exists in said second buffer memory; and

20 said second bypass mode is switched in the following cases:

25 (b1) no data being processed is stored in said auxiliary storage;

(b2) an empty memory block exists in said second buffer memory; and

(b3) a memory block storing data exists in said first buffer memory.

12. A printer which can store data received via a network in an auxiliary storage, comprising:

20 communication processing means for receiving data via the network;

25 writing means for instructing said auxiliary storage to store data input from the communication processing means;

reading means for reading data stored in said auxiliary

~~storage;~~

image data generation means for interpreting input data and generating image data;

printing processing means for printing based upon said 5 generated image data;

detection means for detecting data remaining in said auxiliary storage;

a first buffer memory provided between said communication processing means and said writing means and provided with plural 10 memory blocks; and

a second buffer memory provided between said auxiliary storage and said reading means and provided with plural memory blocks,

wherein (i) a mode via the auxiliary storage in which data 15 received by said communication processing means is input to said image data generation means sequentially via said first buffer memory, said writing means, said auxiliary storage, said reading means and said second buffer memory and (ii) a bypass mode in which data received by said communication processing means is input to 20 said image data generation means without being input to said auxiliary storage are switched based upon a state in which each of said first and second buffer memories are used and quantity of data remaining in said auxiliary storage

13. A data processing method of a printer provided with an auxiliary storage which can store data received via a network, wherein:

5 a mode via the auxiliary storage in which data is transferred via said auxiliary storage and a bypass mode in which data is transferred without passing said auxiliary storage are provided;

10 (1) said mode via the auxiliary storage comprises:

a step for receiving data via the network;

15 a step for storing said received data in said auxiliary storage;

a step for reading the data stored in said auxiliary storage;

20 a step for interpreting said read data and generating image data; and

25 a step for printing based upon said generated image data;

and

(2) said bypass mode comprises:

a step for receiving data via the network;

20 a step for interpreting said received data and generating image data; and

25 a step for printing based upon said generated image data.

14. A data processing method of a printer provided with an auxiliary storage which can store data received via a

network,

wherein a mode via the auxiliary storage in which data is transferred via said auxiliary storage and first and second bypass modes in which data is transferred without passing said auxiliary storage are provided;

5 (1) said mode via the auxiliary storage comprises:

a step for storing data received via the network in an empty memory block of a first buffer memory;

10 a step for extracting the data from the memory block storing the data of said first buffer memory to store it in said auxiliary storage;

a step for reading the data stored in said auxiliary storage to store it in an empty memory block of said second buffer memory;

15 a step for extracting the data from the memory block storing the data of said second buffer memory to interpret it thereby generating image data; and

a step for printing based upon said generated image data;

(2) said first bypass mode comprises:

20 a step for storing data received via the network in an empty memory block of the second buffer memory;

a step for extracting the data from the memory block storing the data of said second buffer memory to interpret it thereby generating image data; and

25 a step for printing based upon said generated image data;

and

(3) said second bypass mode comprises:

a step for storing data received via the network in an empty memory block of the first buffer memory;

5 a step for extracting the data from the memory block storing the data of said first buffer memory to send it to an empty memory block of said second buffer memory;

a step for extracting the data from the memory block storing the data of said second buffer memory to interpret it thereby generating image data; and

10 a step for printing based upon said generated image data.

15. A data processing method of a printer provided with an auxiliary storage which can store data received via a network,

15 wherein a mode via the auxiliary storage in which data is transferred via said auxiliary storage and first and second bypass modes in which data is transferred without passing said auxiliary storage are provided;

20 (1) said mode via the auxiliary storage comprises:

a step for storing data received via the network in an empty memory block of a first buffer memory;

25 a step for extracting the data from the memory block storing the data of said first buffer memory to store it in said auxiliary storage;

a step for reading the data stored in said auxiliary storage to store it in an empty memory block of a second buffer memory;

5 a step for extracting the data from the memory block storing the data of said second buffer memory to interpret it thereby generating image data; and

a step for printing based upon said generated image data;

(2) said first bypass mode comprises:

a step for storing data received via the network in an empty memory block of the second buffer memory;

a step for extracting the data from the memory block storing the data of said second buffer memory to interpret it thereby generating image data; and

15 a step for printing based upon said generated image data;

and

(3) said second bypass mode comprises:

a step for storing data received via the network in an empty memory block of the first buffer memory;

20 a step for transposing the memory block storing the data of said first buffer memory and an empty memory block of said second buffer memory;

a step for extracting the data from the memory block storing the data of said second buffer memory to interpret it thereby generating image data; and

25 a step for printing based upon said generated image data.

16. A data processing method of a printer provided with an auxiliary storage which can store data received via a network,

5 wherein a mode via the auxiliary storage in which data is transferred via said auxiliary storage and a bypass mode in which data is transferred without passing said auxiliary storage are provided;

10 at least a predetermined part at a head of print job data is transferred in said bypass mode; and

15 the other part is transferred in said mode via the auxiliary storage.

17. A record medium on which a program for controlling a printer provided with an auxiliary storage is recorded, the program being recorded in a format in which a computer can read and understand, wherein the following functions are respectively realized by said program:

20 a communication processing function for receiving data via a network;

25 an image data generating function to interpret said received data thereby generating image data;

a printing processing function for printing based upon said generated image data; and

25 a detecting function for detecting a state in which said received data is processed,

wherein said program switches (i) a mode via the auxiliary storage in which said received data is input to said image data generating function via said auxiliary storage and (ii) a bypass mode in which said received data is input to said image data generating function without passing said auxiliary storage based upon said detected state in which data is processed.

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